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January 8, 2008

Project No.: 933-6154

Ms. Mary P. Logan
USEPA Region V (SR-6J)
77 West Jackson Boulevard
Chicago, IL 60604

RE: RESPONSE TO REVISIONS/CLARIFICATIONS
 BASELINE CONDITIONS TECHNICAL MEMORANDUM
 OPERABLE UNIT 2
 NEASE CHEMICAL SITE, SALEM, OHIO

Dear Mary:

On behalf of RÜTGERS Organics Corporation (ROC), Golder Associates Inc. (Golder Associates) has prepared this letter in response to revisions/clarifications received from the United States Environmental Protection Agency (USEPA) on August 23, 2007 regarding the Baseline Conditions Technical Memorandum prepared in June 2007 for Operable Unit 2 (OU-2) of the above referenced site. Attached are replacement pages, tables, and figures for each of your report copies.

If you should have any questions, please do not hesitate to contact Dr. Rainer Domalski at ROC (814/238-5200) or the undersigned (856/793-2005).

Very truly yours,

GOLDER ASSOCIATES INC.

A handwritten signature in black ink, appearing to read "K.F. McCullen".

Kevin F. McCullen
Senior Project Geologist

A handwritten signature in black ink, appearing to read "P. Stephen Finn".
Below the signature, the text "for" is written in parentheses.
Caption:

P. Stephen Finn, C. Eng.
Principal

Enclosures

cc: Sheila Abraham, Ohio EPA
 Tim Christman, Ohio EPA
 Kevin Palombo Ohio EPA
 Rainer Domalski, ROC

US EPA RECORDS CENTER REGION 5



397186

**Agency Comments on the Baseline Conditions Technical Memorandum
Operable Unit 2
Nease Chemical Company, Salem, Ohio
Dated June, 2007**

B. REVISIONS/ CLARIFICATIONS REQUESTED

12. **Section 2.2.2, Page 9, 1st partial paragraph:** Was monitoring well S-9 (listed here) sampled? It does not appear so per Table 2. Please revise as necessary.

Response to Comment No. 12.

Monitoring well S-9 was sampled as part of the baseline groundwater sampling event. Attached is a revised Table 2.

13. **Section 2.3.2, Page 11:** The first bullet under section 2.3.2 states that, "The extent of VOC impacts in the shallow overburden beyond the Nease property are delineated based on results of off-site temporary wells...". Since there is 2100 µg /L total VOC's in off-site well TW06-28 (and no sampling downgradient of that), the VOC impacts have not actually been delineated. This bullet should be revised or removed.

Response to Comment No. 13.

Acknowledged. Attached is a replacement page 11.

14. **Section 3.1.3, Page 19:** Please add a footnote to clarify that Ohio EPA's Division of Environmental Services (DES) functioned as an independent contractor to ROC, and Golder reviewed and validated the analytical results. The analytical results were not provided by DES directly to either USEPA or Ohio EPA's Division of Emergency & Remedial Response.

Response to Comment No. 14.

Acknowledged. Attached is a replacement page 19 with a footnote added to clarify Ohio EPA's DES role in analyzing samples from the site.

15. **Table 4:** Were xylenes detected in any of the monitoring well data? (Xylene is missing from the table.)

Response to Comment No. 15.

Table 4 is a summary table of compounds detected during the baseline groundwater sampling event. Xylenes were not detected in any of the samples collected from the monitoring wells. .

16. **Table 5: In TW-06-23 Tetrachloroethene (PCE) detected at 6.3 ppb per original data tables (11/07/06); this appears to be missing in this report. Please cross-check with the original analytical data.**

Response to Comment No. 16.

PCE was detected at 6.3 ug/L in TW06-23. Attached is a revised Table 5.

17. **Table 11: Mirex in soil has been reported as 3,550 µg/ kg in area A 08 in Table 11; per communication from Golder, this is an error. The actual level detected is 35,500 µg/ kg (per Figure 33). Please revise the table.**

Response to Comment No. 17.

Mirex was detected in the composite sample from area A 08 at a concentration of 35,500 ug/kg. Attached is a revised Table 11.

18. **Figure 29: Southern area ground water contour maps need to be revised to show TW06-28 on the north side of the 1184 contour line. Also, it is DDAGW's opinion that the interpretation of the shallow groundwater flow direction on the south side of SR 14 should be inferred to follow local topography.**

Response to Comment No. 18.

Acknowledged. Attached is a revised Figure 29 with corrections to the groundwater contour lines.

19. **Figure 33: Two A-24 sampling locations are noted in Figure 33 for former Pond 3. ROC's consultant, Golder clarified that one of the locations does not exist. Also, sampling location A-21 should be identified in the figure.**

Response to Comment No. 19.

Acknowledged. Attached are revised Figures 32 and 33 with corrections to the composite area sample locations.

conditions were assessed using existing water level data collected from shallow monitoring wells located in the vicinity of the temporary wells. After all analytical samples were collected; a single set of field parameters (temperature, pH, turbidity, conductivity, ORP, and DO) was measured with a Horiba U-22 instrument.

2.3.2 Southern Area Assessment Results

Analytical results are summarized in Table 5 and detailed in Appendix D. The analytical results are graphically presented as isoconcentration contours for the main constituents in Figures 16 through 25 that were generated using Environmental Visualization System (EVS) software. In addition, Figure 5 presents the concentration of total VOCs for all temporary wells and the permanent wells located in this area that were sampled during the baseline groundwater sampling event.

As previously noted, the objective of this assessment was to delineate shallow overburden impacts in the southern area that had been previously observed at wells B-S and PZ-7. The main conclusions of this assessment are summarized below:

- VOC results from existing shallow overburden wells PZ-4S and A-S located along the southeast property are consistent with historical sampling results; no VOCs were detected at PZ-4S and total VOCs at A-S were detected at a concentration of 158.5 ug/l;
- VOCs were either not detected (PZ-3M and PZ-3B) or were detected in very low concentrations (1.2 ug/l at PZ-4M) in wells screened below the shallow overburden. In addition, as discussed in Section 2.3.4 no VOCs were detected in the residential well located at 1200 Benton Road. Historically, VOCs have not been detected at residential wells located at 1222, 1210 and 1202 Benton Road;
- VOC impacts are more widespread than previously anticipated with the highest concentrations located south-southwest of the former production area around temporary wells TW06-21, TW06-24 and TW06-26 where total VOCs levels ranged from 319,167 ug/l (TW06-26) to 461,448 ug/l (TW06-24). Concentrations of total VOCs decrease substantially downgradient from these locations. Other areas where elevated VOC concentrations were detected are located within and to the southeast of the former production area at location TW06-03; and,
- NAPL is consistently present in well TW06-21 and has been intermittently detected at location TW06-36.

the contents of the bucket auger were emptied into a decontaminated stainless steel bowl. Large debris items (such as rocks, twigs, and large roots) were removed prior to homogenization.

Sample Preparation

After removing large debris, the soil was thoroughly homogenized using a decontaminated stainless steel spoon. Following homogenization, equal volume aliquots of each discrete sample location were transferred to another decontaminated stainless steel bowl to prepare of the five-point composite sample as discussed below. The remaining homogenized material from each discrete sample location was sampled and shipped to the laboratory for refrigerated storage and potential analysis pending review of the composite sample results. Any excess material was returned to the sample location.

After each of the five discrete sample aliquots were added to the composite sample bowl, the material was thoroughly homogenized using a decontaminated stainless steel spoon and sample containers were filled with the homogenized composite material and shipped to the laboratory for analysis of mirex.

3.1.3 Mirex Composite Sampling Results

Soil samples were analyzed for Mirex by the Ohio EPA Division of Environmental Services (DES)⁴ and the analytical results are summarized in Table 11 and detailed in Appendix D. A summary of the analytical results is presented graphically in Figure 33.

Detections of Mirex in the composite samples above the PRG were found in areas adjacent to the former production area, in the ditch along State Route 14, in the drainage ditch that borders the south and east sides of Pond 3, and in the vicinity of the seep behind the MAC Trailer Building (Former Crane Deming Facility). The highest concentrations were proximate to the former production area. Mirex was not detected above the PRG in or around Pond 4, in the drainage ditch that borders the north and west sides of Pond 3; in the northwestern portion of Pond 3 where there was at least 2 feet of soil cover; in the areas northwest of Pond 7, and in the southern corner of the Site.

⁴ Ohio EPA DES performed this analysis as an independent contractor to ROC. These results were not provided directly to the USEPA or the Ohio EPA Division of Emergency & Remedial Response

TABLE 2
BASELINE GROUNDWATER MONITORING PROGRAM
RÜTGERS ORGANICS CORPORATION
NEASE CHEMICAL SITE
SALEM, OHIO

Objective	Well ID	Parameters Analyzed			
		VOCs ⁽¹⁾	SVOCs	Mirex	NAPs ⁽²⁾
SOURCE AREA (FORMER PONDS 1 AND 2) AND EASTERN PLUME 33 WELLS	D-2	X			X
	D-3	X			X
	D-6	X			X
	D-7	X			X
	D-8	X			X
	D-9	X			X
	D-11	X			X
	D-12	X	X	X	X
	D-14	X			X
	D-15	X			X
	D-17	X			X
	D-LBA	X			X
	D-S(D-VF2)	X			X
	D-VF3	X			X
	G-UBA	X	X	X	X
	J-LBA	X			X
	J-VF3	X			X
	PZ-6B-L	X	X	X	X
	PZ-6B-M	X	X	X	X
	PZ-6B-U	X	X	X	X
	S-2	X			X
	S-3	X			X
	S-7	X			X
	S-8	X			X
	S-12	X	X	X	X
	S-13	X			X
	S-14	X			X
	S-16	X			X
	S-17	X	X	X	X
	NZVI-1	X	X	X	X
	NZVI-2	X	X	X	X
	NZVI-3	X	X	X	X
	NZVI-4	X	X	X	X

TABLE 2
BASELINE GROUNDWATER MONITORING PROGRAM
RÜTTERS ORGANICS CORPORATION
NEASE CHEMICAL SITE
SALEM, OHIO

Objective	Well ID	Parameters Analyzed			
		VOCs ⁽¹⁾	SVOCs	Mirex	NAPs ⁽²⁾
FORMER PONDS 4 AND 7 5 WELLS	S-1	X			X
	L-VF1	X			X
	L-VF2	X			X
	S-20	X	X	X	X
	S-21	X	X	X	X
SOUTHERN PORTION OF THE FACILITY 9 WELLS	PZ-4M	X			X
	PZ-4S	X			X
	PZ-3S	X			X
	PZ-3M	X			X
	PZ-3B	X			X
	B-S	X	X	X	X
	PZ-7	X	X	X	X
	A-S	X			X
	S-9	X			X
BACKGROUND 2 WELLS	I-S	X			X ⁽⁴⁾
	I-UBA	X			X
QA/QC					
FIELD DUPLICATES	PZ-7-092106-D	X	X	X	X
	D-17-092506-D	X			X
	D-12-092706-D	X			X
TRIP BLANKS	TB-091906-B	X			
	TB-092006-B	X			
	TB-092106-B	X			
	TB-092206-B	X			
	TB-092406-B	X			
	TB-092506-B	X			
	TB-092606-B	X			
	TB-092706-B	X			
RINSATE BLANKS	TB-092806-B	X			
	PUMPD-092106-B	X	X	X	X
	PUMPE-092506-B	X	X	X	X
	PUMPC-092806-B	X	X	X	X

TABLE 2
BASELINE GROUNDWATER MONITORING PROGRAM
RÜTGERS ORGANICS CORPORATION
NEASE CHEMICAL SITE
SALEM, OHIO

Objective	Well ID	Parameters Analyzed			
		VOCs ⁽¹⁾	SVOCs	Mirex	NAPs ⁽²⁾
MS/MSD					
	NZVI-2-092406-P	X	X	X	X
	D-8-092606-P	X			X
	D-11-092706-P	X			X

Notes

(1) VOC analysis includes dichlorobenzenes.

(2) Parameters included in NAPs analysis are:

Field Parameters - Dissolved Oxygen, Redox, Specific Conductance, pH, Temperature, Turbidity

Laboratory NAPs - Total Organic Carbon, Chloride, Alkalinity as CaCO₃, Sulfate, Total Sulfide, Nitrate, Nitrite, Total Phosphate, Total Suspended Solids, Methane, Ethane, Ethene, and Ferrous Iron

(3) nZVI field pilot study monitoring well.

(4) Background samples from I-S collected for natural attenuation parameters were not analyzed for Methane, Ethane, or Ethene.

Table 5
Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

sys_loc_code:	sample_date:	TW06-01			TW06-02			TW06-03			TW06-04			TW06-05		
		10/30/2006			10/30/2006			08/31/2006			08/31/2006			10/30/2006		
sys_sample_code:		TW06-01A6H310308001			TW06-02A6H310308002			TW06-03A6I010161001			TW06-04A6I010161002			TW06-05A6I010161003		
chemical_name	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
VOLATILE ORGANIC COMPOUNDS	ug/l															
BENZENE	ug/l	1.1	J	4	71		33	8700		2500	<120	U	120	<500	U	500
BROMOFORM	ug/l	<4.0	U	4	<33	U	33	<2500	U	2500	<120	U	120	<500	U	500
CARBON TETRACHLORIDE	ug/l	<4.0	U	4	<33	U	33	<2500	U	2500	55	J	120	300	J	500
CHLOROBENZENE	ug/l	<4.0	U	4	<33	U	33	1000	J	2500	700		120	4000		500
CHLOROFORM	ug/l	1.3	J	4	10	J	33	<2500	U	2500	72	J	120	510		500
1,2-DICHLOROBENZENE	ug/l	8.5		4	88		33	78000		2500	1300		120	14000		500
1,3-DICHLOROBENZENE	ug/l	<4.0	U	4	<33	U	33	<2500	U	2500	<120	U	120	<500	U	500
1,4-DICHLOROBENZENE	ug/l	<4.0	U	4	<33	U	33	690	J	2500	<120	U	120	120	J	500
1,2-DICHLOROETHANE	ug/l	10		4	72		33	5100		2500	270		120	1400		500
1,1-DICHLOROETHENE	ug/l	<4.0	U	4	<33	U	33	<2500	U	2500	<120	U	120	<500	U	500
CIS-1,2-DICHLOROETHENE	ug/l	150		4	1200		33	2900		2500	1600		120	9700		500
TRANS-1,2-DICHLOROETHENE	ug/l	3.7	J	4	18	J	33	<2500	U	2500	<120	U	120	<500	U	500
ETHYLBENZENE	ug/l	<4.0	U	4	<33	U	33	<2500	U	2500	<120	U	120	<500	U	500
1,1,2,2-TETRACHLOROETHANE	ug/l	4.7		4	180		33	3600		2500	2300		120	470	J	500
TETRACHLOROETHENE	ug/l	25		4	1300		33	18000		2500	3600		120	3300		500
TOLUENE	ug/l	<4.0	U	4	<33	U	33	790	J	2500	<120	U	120	<500	U	500
1,2,4-TRICHLOROBENZENE	ug/l	<4.0	U	4	<33	U	33	<2500	U	2500	<120	U	120	<500	U	500
1,1,2-TRICHLOROETHANE	ug/l	1.1	J	4	17	J	33	<2500	U	2500	<120	U	120	<500	U	500
TRICHLOROETHENE	ug/l	120		4	640		33	17000		2500	3000		120	1700		500
VINYL CHLORIDE	ug/l	<4.0	U	4	51		33	<2500	U	2500	<120	U	120	<500	U	500
XYLENES (TOTAL)	ug/l	<8.0	U	8	<67	U	67	<5000	U	5000	<250	U	250	<1000	U	1000
FIELD PARAMETERS																
TEMPERATURE	deg c	13.8			15.3			14.1			17.5			17.4		
pH	pH Units	6.17			5.92			6.43			6.66			6.53		
SPECIFIC CONDUCTANCE	ms/cm	0.287			0.582			1.56			0.468			0.514		
TURBIDITY	ntu	-5			396			-5			98.3			57.2		
DISSOLVED OXYGEN	mg/l	5.08			6.65			3.75			2.02			2.41		
OXIDATION-REDUCTION POTENTIAL	millivolts	105			97			103			50			74		

Qual = Qualifier

RL = Reporting Limit

U = Not detected

UJ = Not detected, estimated RL

J = Estimated

R = Rejected

Table 5
Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

sys_loc_code:	TW06-06 10/30/2006			TW06-07 10/30/2006			TW06-09 10/30/2006			TW06-10 10/30/2006			TW06-11 10/30/2006			
sample_date:	TW06-06A6 020112001			TW06-07A6 020112002			TW06-09A6 220280001			TW06-10A6 220280002			TW06-11A6 220280003			
sys sample_code:	chemical_name	Units	Result	Qual	RL											
VOLATILE ORGANIC COMPOUNDS																
BENZENE	ug/l	3.1		2.9	<22	U	22	<1.0	U	1	370		71	<12	U	12
BROMOFORM	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
CARBON TETRACHLORIDE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
CHLOROBENZENE	ug/l	7.2		2.9	<22	U	22	<1.0	U	1	<71	U	71	5.7	J	12
CHLOROFORM	ug/l	1.3	J	2.9	3.7	J	22	<1.0	U	1	13	J	71	<12	U	12
1,2-DICHLOROBENZENE	ug/l	60		2.9	4.5	J	22	0.27	J	1	490		71	340		12
1,3-DICHLOROBENZENE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
1,4-DICHLOROBENZENE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	5.7	J	12
1,2-DICHLOROETHANE	ug/l	4.8		2.9	310		22	<1.0	U	1	180		71	8.6	J	12
1,1-DICHLOROETHENE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
CIS-1,2-DICHLOROETHENE	ug/l	27		2.9	890		22	<1.0	U	1	1200		71	25		12
TRANS-1,2-DICHLOROETHENE	ug/l	0.47	J	2.9	18	J	22	<1.0	U	1	<71	U	71	<12	U	12
ETHYL BENZENE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
1,1,2,2-TETRACHLOROETHANE	ug/l	4.1		2.9	6.9	J	22	<1.0	U	1	130		71	4.2	J	12
TETRACHLOROETHENE	ug/l	15		2.9	5.6	J	22	<1.0	U	1	1800		71	43		12
TOLUENE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
1,2,4-TRICHLOROBENZENE	ug/l	<2.9	U	2.9	<22	U	22	<1.0	U	1	<71	U	71	<12	U	12
1,1,2-TRICHLOROETHANE	ug/l	<2.9	U	2.9	5	J	22	<1.0	U	1	<71	U	71	<12	U	12
TRICHLOROETHENE	ug/l	15		2.9	520		22	<1.0	U	1	560		71	22		12
VINYL CHLORIDE	ug/l	<2.9	U	2.9	19	J	22	<1.0	U	1	62	J	71	<12	U	12
XYLENES (TOTAL)	ug/l	<5.7	U	5.7	<44	U	44	<2.0	U	2	<140	U	140	<25	U	25
FIELD PARAMETERS																
TEMPERATURE	deg c	17.4			16			14.1			12.7			14.4		
pH	pH Units	5.52			6.78			6.23			6.27			6.5		
SPECIFIC CONDUCTANCE	ms/cm	0.308			0.491			0.554			0.464			0.345		
TURBIDITY	ntu	-5			-5			495			10.3			0		
DISSOLVED OXYGEN	mg/l	6.56			5.98			1.88			6.66			1.29		
OXIDATION-REDUCTION POTENTIAL	millivolts	196			117			62			112			-61		

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R = Rejected

Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

sys_loc_code:		TW06-16 10/30/2006			TW06-17 10/30/2006			TW06-18 10/30/2006			TW06-20 11/02/2006			TW06-21 11/03/2006		
sys_sample_code:		TW06-16A6 220321001			TW06-17A6 220321002			TW06-18A6 220321003			TW06-20_110206_A6K030358002			TW06-21_110306_A6K060190001		
chemical_name	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
VOLATILE ORGANIC COMPOUNDS																
BENZENE	ug/l	640		42	22	J	77	<200	U	200	3.3		1	450		100
BROMOFORM	ug/l	<42	U	42	<77	U	77	<200	U	200	0.62	J	1	<100	U	100
CARBON TETRACHLORIDE	ug/l	<42	U	42	<77	U	77	<200	U	200	<1.0	U	1	330		100
CHLOROBENZENE	ug/l	210		42	800		77	230		200	<1.0	U	1	25	J	100
CHLOROFORM	ug/l	13	J	42	60	J	77	<200	U	200	0.57	J	1	380		100
1,2-DICHLOROBENZENE	ug/l	970		42	1800		77	1100		200	<1.7	U	1	1300		100
1,3-DICHLOROBENZENE	ug/l	<42	U	42	<77	U	77	<200	U	200	0.48	J	1	<100	U	100
1,4-DICHLOROBENZENE	ug/l	<42	U	42	<77	U	77	<200	U	200	0.87	J	1	<100	U	100
1,2-DICHLOROETHANE	ug/l	580		42	410		77	370		200	2.1		1	2200		100
1,1-DICHLOROETHENE	ug/l	<42	U	42	<77	U	77	<200	U	200	<1.0	U	1	37	J	100
CIS-1,2-DICHLOROETHENE	ug/l	1300		42	1300		77	4200		200	280		100	230		100
TRANS-1,2-DICHLOROETHENE	ug/l	21	J	42	<77	U	77	<200	U	200	7.8		1	84	J	100
ETHYLBENZENE	ug/l	<42	U	42	<77	U	77	<200	U	200	<1.0	U	1	<100	U	100
1,1,2,2-TETRACHLOROETHANE	ug/l	53		42	160		77	390		200	72	J	100	59000		5000
TETRACHLOROETHENE	ug/l	480		42	850		77	4200		200	350		100	220000		20000
TOLUENE	ug/l	<42	U	42	14	J	77	<200	U	200	<1.0	U	1	6800		5000
1,2,4-TRICHLOROBENZENE	ug/l	<42	U	42	<77	U	77	<200	U	200	<1.0	U	1	<100	U	100
1,1,2-TRICHLOROETHANE	ug/l	<42	U	42	<77	U	77	<200	U	200	5.1		1	130		100
TRICHLOROETHENE	ug/l	1100		42	350		77	3400		200	280		100	26000		5000
VINYL CHLORIDE	ug/l	<42	U	42	<77	U	77	<200	U	200	0.28	J	2	<200	U	200
XYLENES (TOTAL)	ug/l	<83	U	83	<150	U	150	<400	U	400	<3.0	U	3	<300	U	300
FIELD PARAMETERS																
TEMPERATURE	deg c	15.2			15.4			16.1			9.2			8.2		
pH	pH Units	7.09			7.19			6.9			5.7			6.3		
SPECIFIC CONDUCTANCE	ms/cm	1.17			0.283			0.357			0.268			0.62		
TURBIDITY	ntu	50.9			26			91.1			0			4.3		
DISSOLVED OXYGEN	mg/l	2.22			3.34			3.27			3.97			9.52		
OXIDATION-REDUCTION POTENTIAL	millivolts	27			50			77			176			160		

Qual = Qualifier

RL = Reporting Limit

U = Not detected

UJ = Not detected, estimated RL

J = Estimated

R = Rejected

Table 5
Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

sys_loc_code:		TW06-22			TW06-23			TW06-24			TW06-26			TW06-27		
sample_date:		11/02/2006			11/02/2006			11/03/2006			11/03/2006			11/03/2006		
sys_sample_code:		TW06-22_110206_A6K030358003			TW06-23_110206_A6K030358004			TW06-24_110306_A6K060190002			TW06-26_110306_A6K060190003			TW06-27_110306_A6K060190004		
chemical_name	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
VOLATILE ORGANIC COMPOUNDS																
BENZENE	ug/l	1500		100	2.9		1	63	J	100	42	J	100	<1.0	U	1
BROMOFORM	ug/l	100		100	<1.0	U	1	<100	U	100	<100	U	100	<1.0	U	1
CARBON TETRACHLORIDE	ug/l	<100	U	100	<1.0	U	1	240		100	<100	U	100	<1.0	U	1
CHLOROBENZENE	ug/l	180		100	<1.0	U	1	280		100	<100	U	100	<1.0	U	1
CHLOROFORM	ug/l	38	J	100	<1.0	U	1	79	J	100	140		100	<1.0	U	1
1,2-DICHLOROBENZENE	ug/l	59000		2000	73		10	<100	U	100	<100	U	100	3.3		1
1,3-DICHLOROBENZENE	ug/l	30	J	100	<1.0	U	1	<100	U	100	<100	U	100	<1.0	U	1
1,4-DICHLOROBENZENE	ug/l	400		100	0.98	J	1	<100	U	100	<100	U	100	<1.0	U	1
1,2-DICHLOROETHANE	ug/l	400		100	1.7		1	550		100	1000		100	<1.0	U	1
1,1-DICHLOROETHENE	ug/l	<100	U	100	<1.0	U	1	62	J	100	30	J	100	<1.0	U	1
CIS-1,2-DICHLOROETHENE	ug/l	3800		100	20		1	9000		5000	2200		100	<1.0	U	1
TRANS-1,2-DICHLOROETHENE	ug/l	56	J	100	0.43	J	1	89	J	100	35	J	100	<1.0	U	1
ETHYLBENZENE	ug/l	<100	U	100	<1.0	U	1	<100	U	100	<100	U	100	<1.0	U	1
1,1,2,2-TETRACHLOROETHANE	ug/l	490		100	2.2		1	140000		5000	15000		5000	<1.0	U	1
TETRACHLOROETHENE	ug/l	9500		2000	6.3		1	200000		5000	160000		5000	0.59	J	1
TOLUENE	ug/l	58	J	100	<1.0	U	1	880		100	640		100	<1.0	U	1
1,2,4-TRICHLOROBENZENE	ug/l	16	J	100	<1.0	U	1	<100	U	100	<100	U	100	<1.0	U	1
1,1,2-TRICHLOROETHANE	ug/l	<100	U	100	<1.0	U	1	180		100	80	J	100	<1.0	U	1
TRICHLOROETHENE	ug/l	1300		100	29		1	110000		5000	140000		5000	0.31	J	1
VINYL CHLORIDE	ug/l	81	J	200	0.38	J	2	25	J	200	<200	U	200	<2.0	U	2
XYLENES (TOTAL)	ug/l	<300	U	300	<3.0	U	3	<300	U	300	<300	U	300	<3.0	U	3
FIELD PARAMETERS																
TEMPERATURE	deg c	9.4			8.8			9			11.2			10.4		
pH	pH Units	5.91			5.65			6.49			6.71			5.79		
SPECIFIC CONDUCTANCE	ms/cm	0.577			0.215			0.603			0.859			0.239		
TURBIDITY	ntu	98.3			0			119			47.7			329		
DISSOLVED OXYGEN	mg/l	9.36			7.12			5.14			6.63			2.48		
OXIDATION-REDUCTION POTENTIAL	millivolts	132			150			174			148			191		

Qual = Qualifier

RL = Reporting Limit

U = Not detected

UJ = Not detected, estimated RL

J = Estimated

R = Rejected

January 18

933-6154

Table 5
Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

chemical_name	Units	TW06-28			TW06-29			TW06-30			TW06-31			TW06-32			
		Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	
VOLATILE ORGANIC COMPOUNDS																	
BENZENE	ug/l	0.53	J	1	<1.0	U	1	<100	U	100	<250	U	250	1000	J	1200	
BROMOFORM	ug/l	<1.0	U	1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
CARBON TETRACHLORIDE	ug/l	<1.0	U	1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
CHLOROBENZENE	ug/l	12		1	1.2			1	71	J	100	<250	U	250	530	J	1200
CHLOROFORM	ug/l	1		1	1			1	<100	U	100	<250	U	250	<1200	U	1200
1,2-DICHLOROBENZENE	ug/l	34		1	<1.0	U	1	4400	J	5000	7300		250	44000		1200	
1,3-DICHLOROBENZENE	ug/l	<1.0	U	1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
1,4-DICHLOROBENZENE	ug/l	0.24	J	1	<1.0	U	1	77	J	100	71	J	250	370	J	1200	
1,2-DICHLOROETHANE	ug/l	10		1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
1,1-DICHLOROETHENE	ug/l	0.61	J	1	1.3			1	<100	U	100	<250	U	250	<1200	U	1200
CIS-1,2-DICHLOROETHENE	ug/l	33		1	380			100	6100		5000	<250	U	250	5700		1200
TRANS-1,2-DICHLOROETHENE	ug/l	1.4		1	7			1	34	J	100	<250	U	250	<1200	U	1200
ETHYLBENZENE	ug/l	<1.0	U	1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
1,1,2,2-TETRACHLOROETHANE	ug/l	650		100	220			100	1300		100	380		250	540	J	1200
TETRACHLOROETHENE	ug/l	640		100	360			100	89000		5000	240	J	250	4100	U	1200
TOLUENE	ug/l	<1.0	U	1	<1.0	U	1	340		100	<250	U	250	<1200	U	1200	
1,2,4-TRICHLOROBENZENE	ug/l	<1.0	U	1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
1,1,2-TRICHLOROETHANE	ug/l	4.2		1	<1.0	U	1	<100	U	100	<250	U	250	<1200	U	1200	
TRICHLOROETHENE	ug/l	760		100	310			100	9900		5000	580		250	590	J	1200
VINYL CHLORIDE	ug/l	<2.0	U	2	2.7			2	<200	U	200	<250	U	250	<1200	U	1200
XYLENES (TOTAL)	ug/l	<3.0	U	3	<3.0	U	3	<300	U	300	<500	U	500	<2500	U	2500	
FIELD PARAMETERS																	
TEMPERATURE	deg c	8.9			16.1			16.3			5.7			10			
pH	pH Units	6.19			6.69			6.86			7.64			6.8			
SPECIFIC CONDUCTANCE	ms/cm	1.6			0.43			0.604			88.2			142			
TURBIDITY	ntu	20.2			0			120			34.3			89.8			
DISSOLVED OXYGEN	mg/l	2.15			5.47			7.15			12.97			8.07			
OXIDATION-REDUCTION POTENTIAL	millivolts	177			183			201			160			75			

Qual = Qualifier

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R = Rejected

Table 5
Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

sys_loc_code: sample_date: sys_sample_code:		TW06-33 12/05/2006 TW06-33A6L070172002			TW06-34 12/05/2006 TW06-34A6L070172001			TW06-35 12/06/2006 TW06-35A6L070247003			TW06-37 12/07/2006 TW06-37A6L090150001			TW06-39 12/13/2006 TW06-39-121306A6L140194003			
chemical_name	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	
VOLATILE ORGANIC COMPOUNDS																	
BENZENE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	320		100	
BROMOFORM	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
CARBON TETRACHLORIDE	ug/l	<1700	U	1700	780	J	2500	2500	J	3300	<1	U	1	<100	U	100	
CHLOROBENZENE	ug/l	1300	J	1700	5200			2500	2900	J	3300	<1	U	1	<100	U	100
CHLOROFORM	ug/l	<1700	U	1700	<2500	U	2500	760	J	3300	<1	U	1	<100	U	100	
1,2-DICHLOROBENZENE	ug/l	63000		1700	14000			2500	18000		3300	1.9		1	<100	U	100
1,3-DICHLOROBENZENE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
1,4-DICHLOROBENZENE	ug/l	620	J	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
1,2-DICHLOROETHANE	ug/l	5800		1700	450	J	2500	<3300	U	3300	<1	U	1	<100	U	100	
1,1-DICHLOROETHENE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
CIS-1,2-DICHLOROETHENE	ug/l	1600	J	1700	1500	J	2500	7500		3300	0.6	J	1	<100	U	100	
TRANS-1,2-DICHLOROETHENE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
ETHYL BENZENE	ug/l	<1700	U	1700	3600			2500	<3300	U	3300	<1	U	1	3000	U	100
1,1,2,2-TETRACHLOROETHANE	ug/l	<1700	U	1700	2800			2500	<3300	U	3300	6.3		1	<100	U	100
TETRACHLOROETHENE	ug/l	27000		1700	79000			2500	89000		3300	2.6		1	<100	U	100
TOLUENE	ug/l	550	J	1700	3300			2500	6200		3300	<1	U	1	600	U	100
1,2,4-TRICHLOROBENZENE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
1,1,2-TRICHLOROETHANE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
TRICHLOROETHENE	ug/l	90	J	1700	4700			2500	3700		3300	8.4		1	<100	U	100
VINYL CHLORIDE	ug/l	<1700	U	1700	<2500	U	2500	<3300	U	3300	<1	U	1	<100	U	100	
XYLENES (TOTAL)	ug/l	<3300	U	3300	24000			5000	<6700	U	6700	<2	U	2	3800		200
FIELD PARAMETERS																	
TEMPERATURE	deg c	9			10.8									9.3			
pH	pH Units	5.43			6.32									6.25			
SPECIFIC CONDUCTANCE	ms/cm	6.51			81.4									0.91			
TURBIDITY	ntu	18.2			19.2									91.5			
DISSOLVED OXYGEN	mg/l	3.48			7.37									5.64			
OXIDATION-REDUCTION POTENTIAL	millivolts	201			216									24			

Qual = Qualifier

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U = Not detected

NJ = Not detected, estimated RL

J = Estimated

R = Rejected

Note: No field parameters collected during sampling of TW06-35 and TW06-37 due to Horiba malfunction

Table 5
Summary of Groundwater Detections
Southern Area Temporary Wells/Residential Well
Nease Chemical Site
Salem, Ohio

chemical_name	Units	TW06-40			Residential Well (1210 Benton Rd.)		
		sample_date:	Result	Qual	RL	sample_date:	Result
VOLATILE ORGANIC COMPOUNDS							
BENZENE	ug/l	210		140	<1.0	U	1.0
BROMOFORM	ug/l	<140	U	140	<1.0	U	1.0
CARBON TETRACHLORIDE	ug/l	<140	U	140	<1.0	U	1.0
CHLOROBENZENE	ug/l	85	J	140	<1.0	U	1.0
CHLOROFORM	ug/l	<140	U	140	<1.0	U	1.0
1,2-DICHLOROBENZENE	ug/l	2000		140	<1.0	U	1.0
1,3-DICHLOROBENZENE	ug/l	<140	U	140	<1.0	U	1.0
1,4-DICHLOROBENZENE	ug/l	<140	U	140	<1.0	U	1.0
1,2-DICHLOROETHANE	ug/l	<140	U	140	<1.0	U	1.0
1,1-DICHLOROETHENE	ug/l	<140	U	140	<1.0	U	1.0
CIS-1,2-DICHLOROETHENE	ug/l	1800		140	<1.0	U	1.0
TRANS-1,2-DICHLOROETHENE	ug/l	<140	U	140	<1.0	U	1.0
ETHYLBENZENE	ug/l	<140	U	140	<1.0	U	1.0
1,1,2,2-TETRACHLOROETHANE	ug/l	120	J	140	<1.0	U	1.0
TETRACHLOROETHENE	ug/l	3900		140	<1.0	U	1.0
TOLUENE	ug/l	<140	U	140	<1.0	U	1.0
1,2,4-TRICHLOROBENZENE	ug/l	<140	U	140	<1.0	U	1.0
1,1,2-TRICHLOROETHANE	ug/l	<140	U	140	<1.0	U	1.0
TRICHLOROETHENE	ug/l	870		140	<1.0	U	1.0
VINYL CHLORIDE	ug/l	<140	U	140	<2.0	U	2.0
XYLENES (TOTAL)	ug/l	<290	U	290	<3.0	U	3.0
FIELD PARAMETERS							
TEMPERATURE	deg c	10.8					
pH	pH Units	6.42					
SPECIFIC CONDUCTANCE	ms/cm	1.48					
TURBIDITY	ntu	592					
DISSOLVED OXYGEN	mg/l	0					
OXIDATION-REDUCTION POTENTIAL	millivolts	-6					

Qual = Qualifier

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UJ = Not detected, estimated RL

J = Estimated

R = Rejected

January 2008

Table 11
Surficial Soil Mirex Data
Nease Chemical Site
Salem, Ohio

933-6154

sys_loc_code:	SB06-A01			SB06-A02			SB06-A02			SB06-A03			SB06-A04			
start_depth:	0			0			0			0			0			
end_depth:	1			1			1			1			1			
sample_date:	09/28/2006			09/28/2006			09/28/2007			09/28/2006			09/28/2006			
sys_sample_code:	SB06-A01-HC_00-01_P_90669A	SB06-A02-HC_00-01_P_90657	SB06-A02-HC_00-01_D_90658	SB06-A03-HC_00-01-P_90659	SB06-A04-HC_00-01_P_90660											
Parameter	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
Mirex	ug/kg	2130	J	485	117	J	38.2	138	J	37.8	97400	J	10700	2130	J	1010
Solids, Percent	%	82			83.6			84			73.8			79.1		

sys_loc_code:	SB06-A05			SB06-A06			SB06-A07			SB06-A08			SB06-A09			
start_depth:	0			0			0			0			0			
end_depth:	1			1			1			1			1			
sample_date:	09/28/2006			09/27/2006			09/27/2006			09/27/2006			09/27/2006			
sys_sample_code:	SB06-A05-HC_00-01_P_90661	SB06-A06-HC_00-01_P_90652	SB06-A07-HC_00-01_P_90653	SB06-A08-HC_00-01_P_90654	SB06-A09-HC_00-01_P_90679											
Parameter	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
Mirex	ug/kg	668	J	196	41900	J	4730	15800	J	4770	35500	J	4790	4900	J	942
Solids, Percent	%	80.7			84.2			83.2			83.3			84.2		

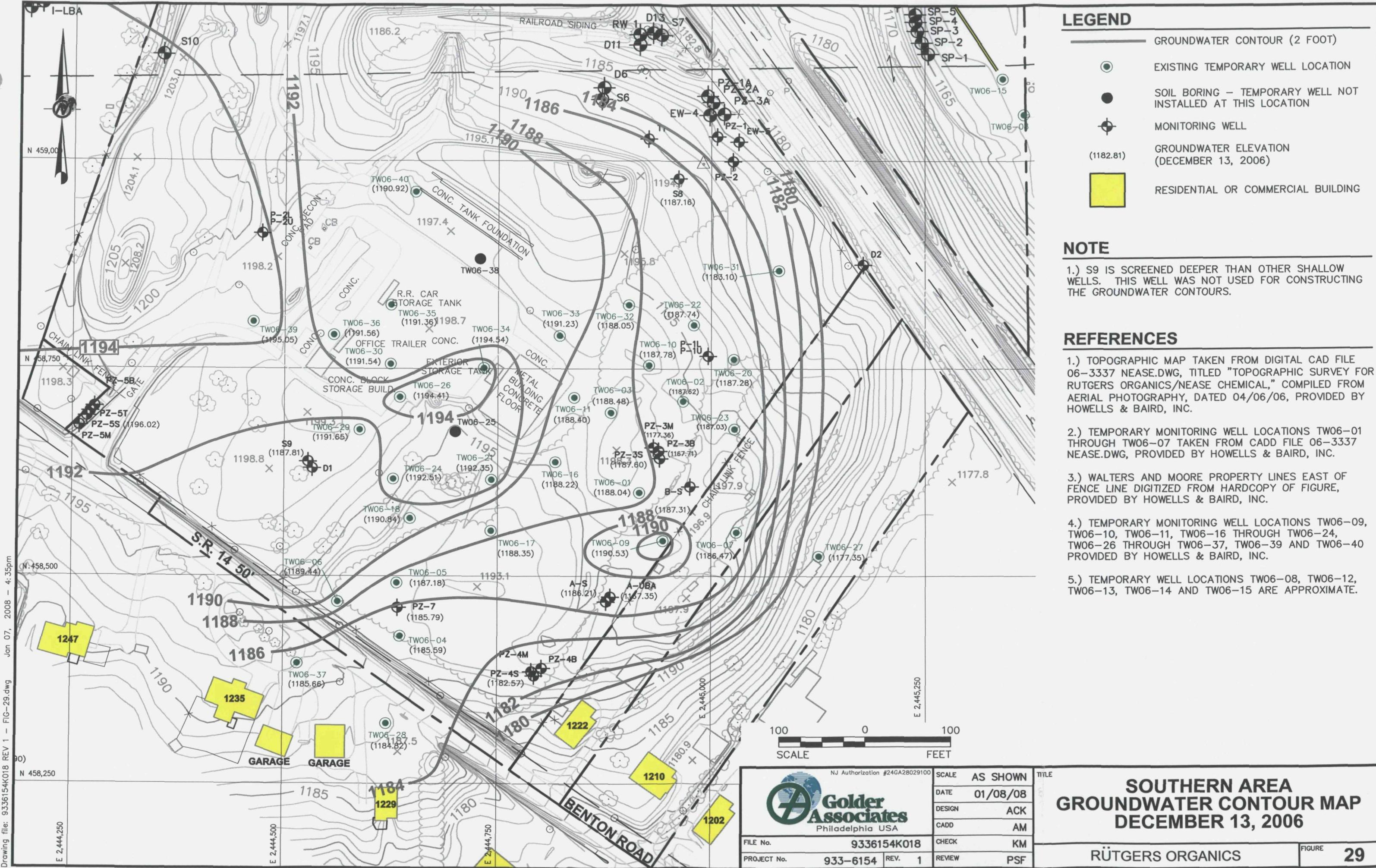
sys_loc_code:	SB06-A10			SB06-A11			SB06-A12			SB06-A13			SB06-A14			
start_depth:	0			0			0			0			0			
end_depth:	1			1			1			1			1			
sample_date:	10/05/2006			10/05/2006			09/27/2006			09/27/2006			10/02/2006			
sys_sample_code:	SB06-A10-HC_00-01_P_90675	SB06-A11-HC_00-01_P_90676	SB06-A12-HC_00-01_P_90655	SB06-A13-HC_00-01_P_90656	SB06-A14-HC_00-01_P_90667											
Parameter	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
Mirex	ug/kg	2510	J	521	4300	J	1020	42800	J	4790	782	J	201	332	J	50.2
Solids, Percent	%	76.1			78.5			82.7			79.3			79.6		

Table 11
Surficial Soil Mirex Data
Nease Chemical Site
Salem, Ohio

sys_loc_code:	SB06-A15			SB06-A16			SB06-A17			SB06-A17			SB06-A18			
start_depth:	0			0			0			0			0			
end_depth:	1			1			1			1			1			
sample_date:	10/02/2006			10/03/2006			10/03/2006			10/03/2006			10/02/2006			
sys_sample_code:	SB06-A15-HC_00-01_P_90668	SB06-A16-HC_00-01_P_90671	SB06-A17-HC_00-01_P_90672	SB06-A17-HC_00-01_D_90673	SB06-A18-HC_00-01_P_90670											
Parameter	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
Mirex	ug/kg	1780	J	495	27400	J	4330	1260	J	255	1100	J	202	311	J	49
Solids, Percent	%	80.8			73.7			78.4			78.4			80.8		

sys_loc_code:	SB06-A19			SB06-A20			SB06-A21			SB06-A22			SB06-A23			
start_depth:	0			0			0			0			0			
end_depth:	1			1			1			1			1			
sample_date:	09/29/2006			09/29/2006			09/29/2006			10/06/2006			10/05/2006			
sys_sample_code:	SB06-A19-HC_00-01_P_90662	SB06-A20-HC_00-01_P_90663	SB06-A21-HC_00-01_P_90664	SB06-A22-HC_00-01_P_90680	SB06-A23-HC_00-01_P_90677											
Parameter	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL
Mirex	ug/kg	188	J	40.4	63.5	J	14.8	66	J	15	165	J	38.6	530	J	98.1
Solids, Percent	%	79.2			80.3			79.3			82.7			81.2		

sys_loc_code:	SB06-A24			SB06-A25			SB06-A26			SB06-A27						
start_depth:	0			0			0			0						
end_depth:	1			1			1			1						
sample_date:	10/05/2006			09/29/2006			09/29/2006			10/04/2006						
sys_sample_code:	SB06-A24-HC_00-01_P_90678	SB06-A25-HC_00-01_P_90665	SB06-A26-HC_00-01_P_90666	SB06-A27-HC_00-01_P_90674												
Parameter	Units	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL	Result	Qual	RL			
Mirex	ug/kg	210	J	41.2	134	J	37.9	92.4	J	24.9	913	J	213			
Solids, Percent	%	77.2			84.1			79.8			74.8					



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FIGURES 32 & 33: SURFACE SOIL SAMPLING MAP, SURFACE SOIL SAMPLING ANALYTICAL RESULTS MAP



Other: